

The Eagle Adventure Soars: School-based programming to prevent type 2 diabetes in Indian country and beyond

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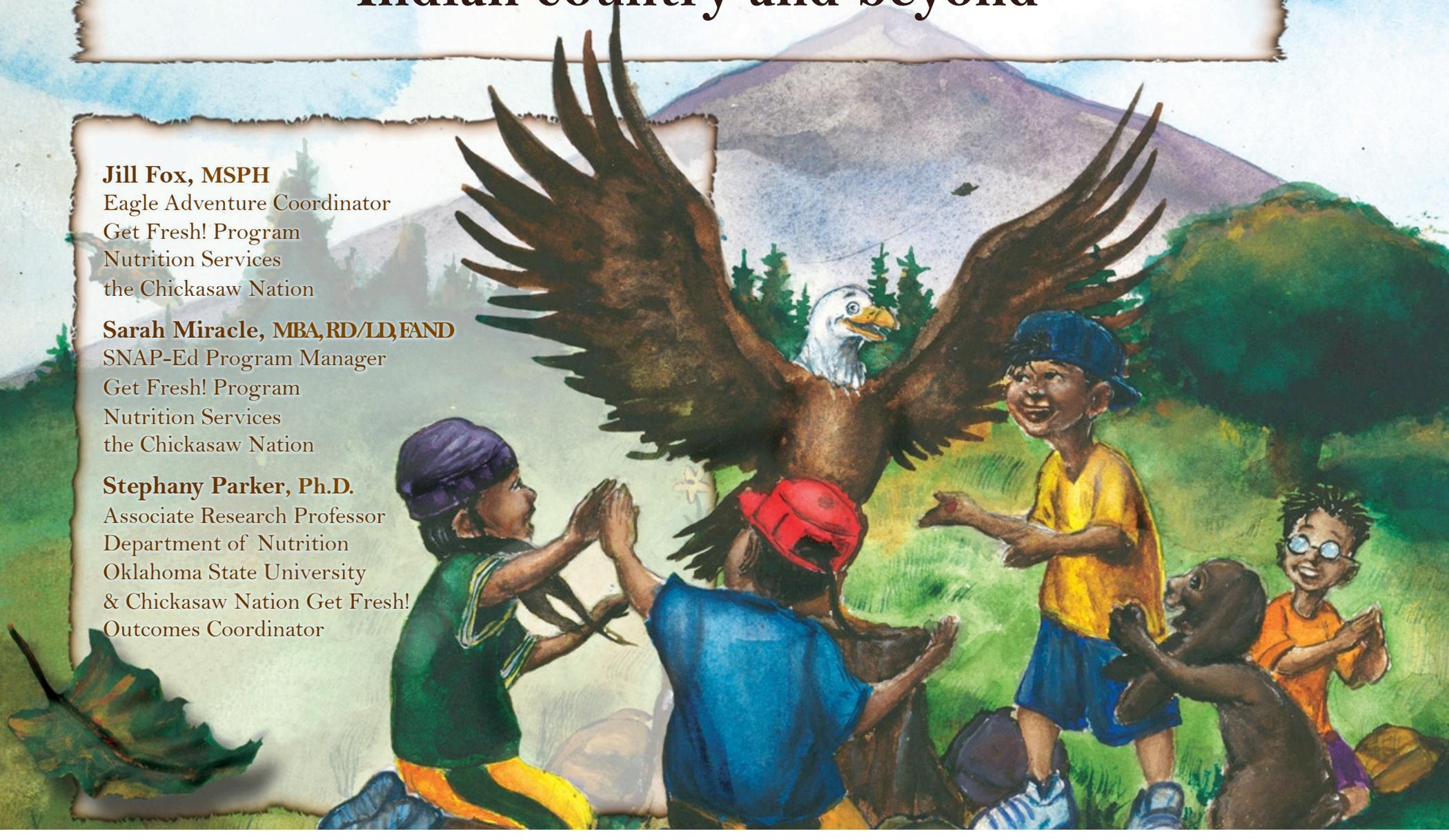
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SNAP-Ed funded initiative of the Chickasaw Nation



*the
Chickasaw
Nation*



COLLEGE OF
Human Sciences
Nutritional Sciences



Tribal-University Partnerships Important and Prevention Work Takes Time

“Mainstream models, programs, and funding agencies too often assume that tribal community members and practitioners can immediately begin to resolve an issue; they pay little attention to the social, cultural, historical, and political environment and to the time needed to build effective working relationships.”

Chino and DeBruyn. Am J Public Health. 2006;96:9-12.

Synergistic and Holistic Approach

- Chickasaw Nation Mission, Vision, Goals and Core Values
- Guided by and leading excellence and innovations in SNAP-Ed programming, evaluation and theoretical underpinnings
- Upheld by University research support services

SNAP-ED EVALUATION FRAMEWORK

Nutrition, Physical Activity, and Obesity Prevention Indicators



← CHANGES IN SOCIETAL NORMS AND VALUES →

APRIL 2016

Formative Participant-Centered Research

2006

- **12 group discussions with women (n=42)**
To identify product, promotion, price and place

2007

- **Telephone Survey (n=237)**
To assess program awareness and identify what topics are of interest
- **Photovoice (n=12 families)**
To learn where families got information that was important and identify values

Consistent Results

Diabetes Connections

- Inevitable
- Concerns about children

Ecological Perspective

- Generational ties
- Individual, interpersonal, organizational and environmental factors

Additional Research Needed

Participant-Centered Research

2007

- **Telephone Interviews (n=21)**
To learn more about perceptions of diabetes, physical activity and how families prefer to receive information

2008-2009

- **Testing of messages (n=48)**
To determine reactions to a series of messages

2009-2010

- **Focus groups and storytelling with elders (n=47)**
To learn about elders' perceptions of diabetes and their recommendations for prevention

Eagle Books Resonated with Results

Eagle Books grew from the story *Through the Eyes of the Eagle*, by Georgia Perez, Nambe Pueblo (Community Health Representative for 19 years).

- Developed by the CDC Division of Diabetes Translation's Native Diabetes Wellness Program, in collaboration with the Tribal Leaders Diabetes Committee and the Indian Health Service.
- In keeping with Native American traditions of storytelling.

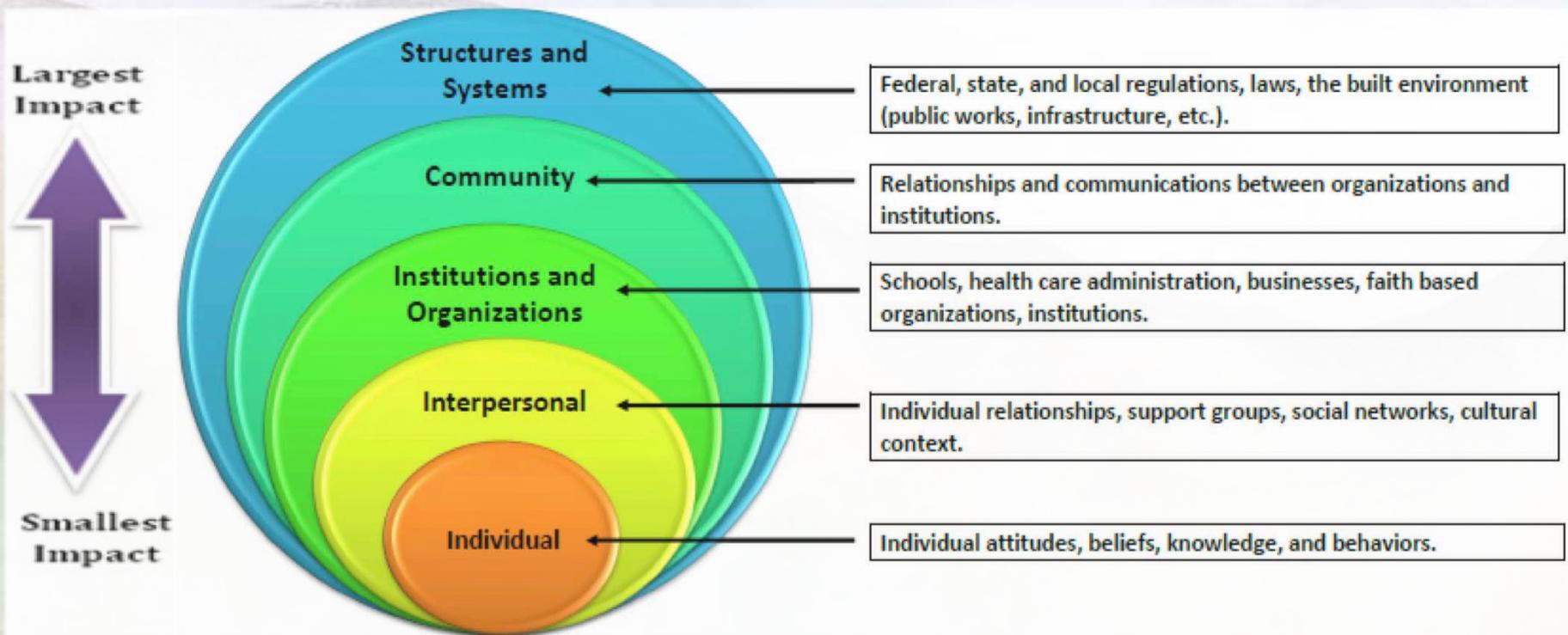


Eagle Play

Play written and developed by:
Lori Robins- Carmichael and
Dr. JudyLee Oliva



Planning with the Socioecological Model



Health Equity and Obesity Toolkit: ["Health Equity Resource Toolkit for State Practitioners Addressing Obesity Disparities"](http://www.cdc.gov/obesity/health_equity/toolkit.html) [PDF-3.78Mb]. Available at: http://www.cdc.gov/obesity/health_equity/toolkit.html

Eagle Adventure Aims

Provide a vision of hope that type 2 diabetes can be prevented.

- Alter social desirability with respect to fruit, vegetable and physical activity behaviors
- Develop food/physical activity/body connections
- Encourage children to take a health leadership role in the family
 - Children as change agents/health leaders



Eagle Adventure Program Components

INDIVIDUAL LEVEL

- Eagle Play kick-off
- Four in-class lessons
- Cultural connections
- Hands-on activities
- Try an ingredient
- Physical Activity

SCHOOL LEVEL

- Eagle Announcements
- Posters
- Banners

INTERPERSONAL LEVEL

- Eagle Moving Activities
- Eagle Recipes
- Parent tip sheets
- Nestwork

COMMUNITY LEVEL

- Eagle's Nest in the Times
- Radio
- Travel stop signage
- Others

Cultural Relevance

Storytelling

- Facilitated reading
- Animals that embody traditional knowledge



Language revitalization

- Chickasaw, Choctaw, Otoe-Missouria, Mvskoke, Pawnee, Sac and Fox

Traditional ways of being active

- Games, song and dance
- Snake dance



Eagle Adventure Partnerships

- Choctaw Nation of Oklahoma
Schools in Battiest, Jones, Moyer, Red Oak, Tuskahoma
- Mvskoke Food Sovereignty Initiative (MFSI)
Tulsa Public School after-school program
- Sac & Fox Nation
Parkview Elementary, Stroud



- Otoe-Missouria Tribe
Frontier Elementary,
Red Rock
- Pawnee Nation
Pawnee Elementary

FY15 Outcomes Evaluation

Individual level

- **Pre-post evaluation worksheet in class**
 - Administered approximately two weeks before the play and two weeks after the last lesson
 - Measures change related to
 - Food Choice/Food Desirability
 - Activity Choice/Desirability

Eagle Adventure Evaluation

Since launching in 5 Pontotoc County schools in 2010, more than 5,000 Oklahoma students have participated.

Following the program:

- Children are more likely to indicate a preference for activities requiring movement than sedentary activities (playing video games or watching television)
- Significant increase in proportion of children who want to consume more fruits and vegetables
- Significant increase in proportion of children who want to play outside more

Student Evaluation

Grades 1-3 Differences Between Pre- and Post-Survey Scores

	Intervention			
	Pre	Post	<i>t</i>	<i>p</i>
Food Preference Score (FPS)				
Sample size	575	575		
Mean (<i>SE</i>)	6.7	7.4	12.5	<0.001
Food Desirability Score (FDS)				
Sample size	563	563		
Mean (<i>SE</i>)	10.4	10.7	6.5	<0.001
Physical Activity Preference Score (PAP)				
Sample size	573	573		
Mean (<i>SE</i>)	6.5	7.3	13.9	<0.001
Physical Activity Desirability Score (PDS)				
Sample size	573	573		
Mean (<i>SE</i>)	8.7	9.1	8.3	<0.001

FPS scores could range from 4-8; FDS scores could range from 6-12; PAP scores could range from 4-8; PDS scores could range from 5-10.

Interpersonal Evaluation

Parent Evaluation at Post

- 83% report reading the Eagle Books at home
- 73% report doing the moving activities together
- 52% report making the Eagle recipes together

Youth pre/post evaluation for after-school program

Process Evaluation

Helps make sure the program is relevant and appropriate

- **Teacher's Evaluation**
- **Classroom Monitoring**

Parent Comments

- *My daughter loved the recipes and the moving activities. This is a great program. Thank you for bringing it to Ada!!*
- *When packing [my son's] lunch, I would open up the fridge and say find me a green vegetable that you can eat for lunch. He chose snap peas!!...Also, he was great about doing the 2 bite club..[he] does not always make good choices with his food but the Eagle Adventure opened him up to trying new foods with color. Thank you!!!*
- *We loved the program! We enjoyed reading the books as a family. The kids had fun doing the moving activities. My child was influenced in a positive way. She is now more aware about food and physical activity. Thank you!!*
- *The whole family made the eagle nest dessert and loved it!*

- *She [daughter] especially loved the fruit and vegetable calendar! She uses it all the time. Thank you for helping me teach her how to be healthier.*
- *My child helps his parent open cans of green beans and corn and puts them in a pan. He will also clean the red and yellow potatoes when we ask him. When we go to the store, he looks at different vegetables and asks what they are and how do you cook them.*
- *My daughter has been more active in wanting to help me more in the kitchen, when preparing meals and buying fruit. She loves fruit.*
- *My daughter benefitted very much from this program. She learned a lot about diabetes which is good because it runs in my family.*
- *I love the excitement she [daughter] has for this program!*

Teacher Views

- *Eagle Adventure has such excellent resources and materials. The lessons and activities were truly engaging. You made an impact on our students by teaching them how to prevent diabetes.*
- *I liked how they had a realistic approach to nutrition. For example, so many programs tell children never to eat chips, candy, etc, but instead they talked about "sometimes foods" and "everyday foods". I think that is something children will consider more than cutting it out completely.*
- *I thought the activities to connect the content with their guardian at home were very beneficial. My kids often took part in those activities.*
- *I noticed they became more aware of what they were putting in their bodies. Although this didn't necessarily mean they were going to make good choices all the time, the knowledge of appropriate portions and foods was taken in by the kids.*

Policy, Systems and Environmental Change: Teachers

- *Our class has incorporated more breaks involving physical activities. We "move" more in the classroom and occasionally go outside for a few minutes to jump rope. They love jumping rope! Additionally, we talk about eating and/or making healthy (or healthier) snacks and lunch choices, too. We encourage each other to keep trying new things (even if we didn't like a particular food item at an earlier date). I have also limited the use of candy as a reward item; I am now rewarding with healthier items like pumpkin seeds, sunflower seeds, pistachios, peanuts, raisins, and popcorn.*
- *New at our school this year was the "Physical Education Showcase," which also served as a fundraiser to support our P.E. program. It was held on two different evenings during the month of March. Students in 1st through 5th grades were involved in showing those in attendance the various physical activities they do when they attend P.E. class throughout the week. It was exciting to watch, and the children had fun!*
- *We incorporate the "two bite club" into activities that involve food.*

Expanding Eagle Adventure

In 2014, the Notah Begay III foundation (NB3F) awarded the team a Promising Program grant to expand school-programming to after-school environments

- 18 lessons developed and tested
- Pilot still on-going
- Focus on physical activity and hands-on snack



Eagle Adventure Community Events

- Chickasaw Nation Sponsored 5K family events
- Nike N7 Youth Movement Event with the OSU Student Athlete Advisory Committee



- Seminole Nation Days
- Otoe-Missouria Intertribal Youth Celebration
- Indian Falls Creek Health Fair, Davis
- Iowa Tribe Health Fair, Perkins

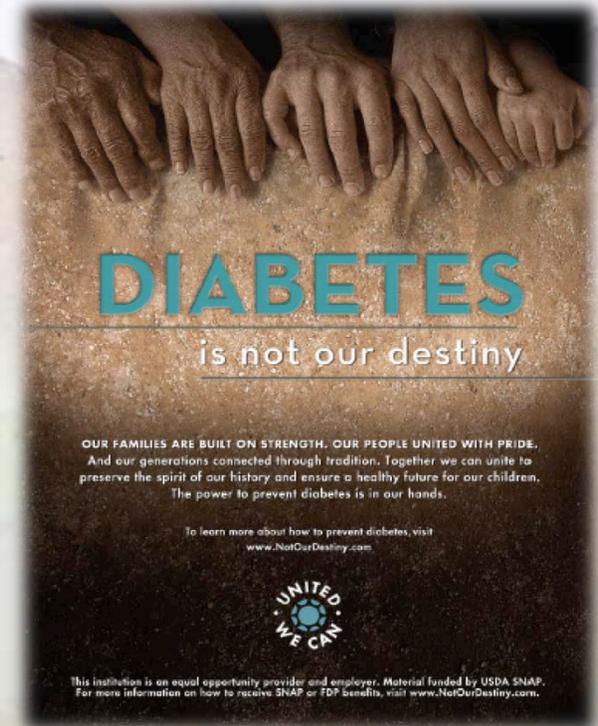


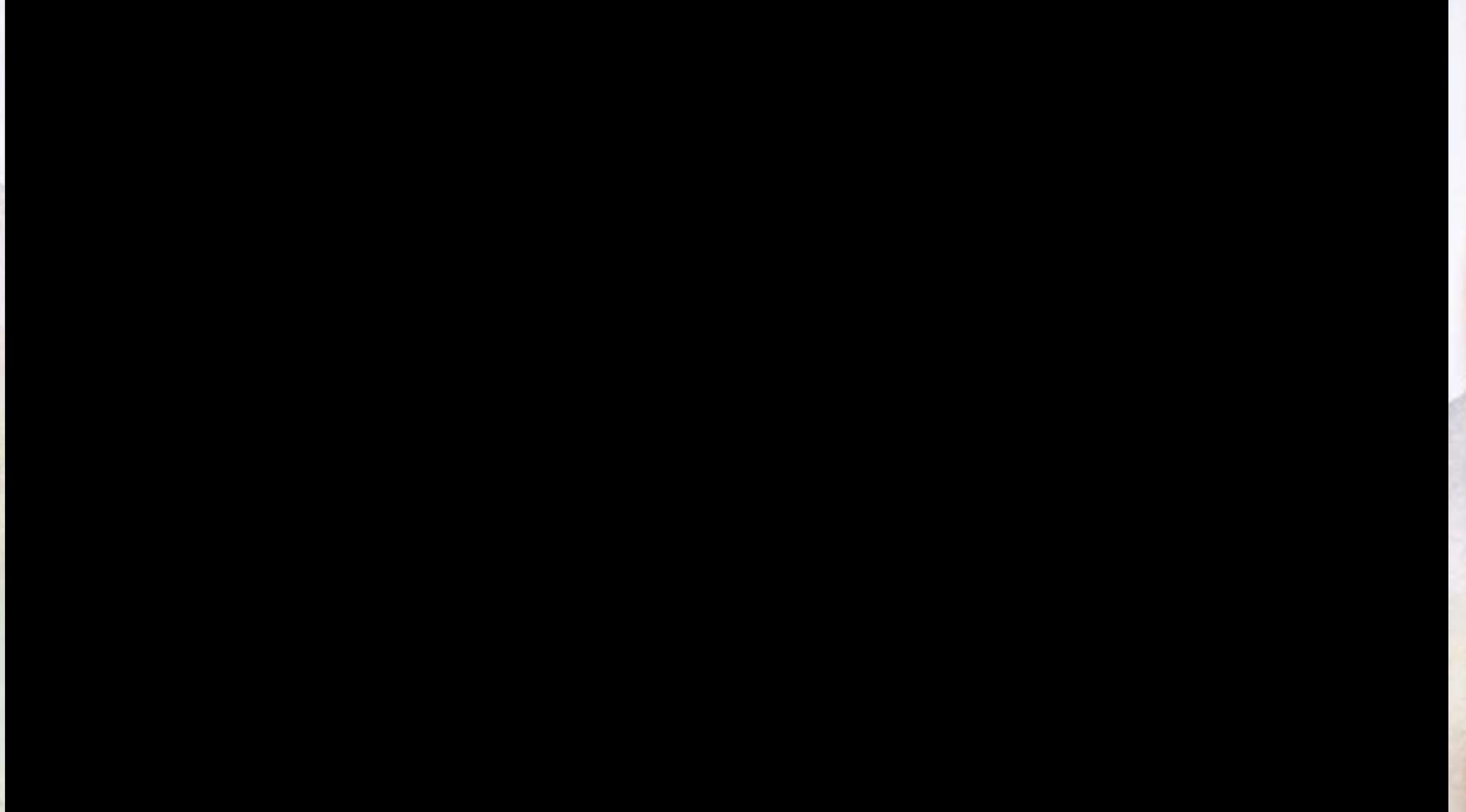
Eagle Adventure Is a Living Program

- Identify policy to guide behavioral change in elementary schools related to fund-raising, snacks and physical activity guidelines. (Policy)
- Expand EA programming to include a school walking program. (Policy and Environmental)
- Support expansion of school snack pantries to allow for healthy school snack to elementary students at no cost to parents or teachers through collaborations with food banks and other partners interested in supporting such change. (Policy, Systems, Environmental)
- Expand place-based signage at travel stops and other food stores to allow for the increased display and sale of fruits, vegetables, water, and other every day foods. (Environmental)

Diabetes is Not Our Destiny: Sister Program

- Intergenerational campaign
- Developed to provide a vision of hope that type 2 diabetes can be prevented
- Campaign & web landing page www.NotOurDestiny.com launched in December 2013
 - TV PSA
 - Radio PSA
 - Billboards
 - Newspaper ads
 - Direct mailers





www.NotOurDestiny.com

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Together we can prevent type 2 diabetes!

Chickasaw Nation: Jeff Carpenter, Leslie Cook, Rheanna Fagan, Tiffany Grant, Steve Jacob, Shon McCage, Michael Peercy, Lorie Robins- Carmichael, Bobby Saunkeah, Alicson Scott, James Wallace & AnDina Wiley

4-H Club Member Actors: Adam Daniel, Adeline Daniel, Alicia Daniel, Amanda Daniel, Andrew Daniel, Christine Elliot, Cali Stenson, Alexandra Smith & Sam Smith

CDC Partners: Lemyra DeBruyn & Dawn Satterfield, Native Diabetes Wellness Program, Centers for Disease Control and Prevention

WESTAT: Teri Lofton

OSU Staff and Students: Teresa Jackson, Danica Johnson, Sara Mata, Ursula O'Hara, Embrey Pollet, Chandra Sterling & Angelina Stovall

Eagle Song: Joshua Parker-Phelps & Dr. Dwanna Robertson

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Want to learn more?

- Eagle Adventure: www.eagleadventure.com
- Diabetes is Not Our Destiny: www.NotOurDestiny.com
- Get Fresh!: www.getfreshcooking.com
- The Story of the Eagle Books: <http://www.cdc.gov/diabetes/projects/ndwp/ebtoolkit/index.html>
- Order Free Eagle Books from CDC: <http://www.cdc.gov/pubs/diabetes.aspx>
- Eagle Books Toolkit: <http://www.cdc.gov/diabetes/projects/ndwp/ebtoolkit/ebtoolkit.htm>
- SNAP Education and Evaluation Case Study Report: Eagle Adventure. Available at: <http://www.fns.usda.gov/snap-education-and-evaluation-study-wave-i>
- SNAP-ED Evaluation Framework: <https://snaped.fns.usda.gov/sites/default/files/uploads/SNAP-EdEvaluationFrameworkInterpretiveGuide.PDF>
- Parker, S., Hunter, T., Briley, C., Miracle, S., Hermann, J., Van Delinder, J., & Standridge, J. (2011). Formative assessment using social marketing principles to identify health and nutrition perspectives of Native American women living within the Chickasaw Nation boundaries in Oklahoma. *Journal of nutrition education and behavior*, 43(1), 55-62.
- Jackson, T., Parker, S., Hermann, J., Miracle, S., & Briley, C. (2012). Understanding Native American women's views of physical activity to inform family-based program development. *Journal of Extension* [On-line], 50(4) Article 4TOT7. Available at: <http://www.joe.org/joe/2012august/tt7.php>
- Hermann, J., Jackson, T., Miracle, S., Parker, S., & Robertson, D. (2010). Utilizing the socioecological model as a framework for understanding Elder Native Americans' views of type 2 diabetes for the development of an indigenous prevention plan. USDA ERS Final Report. Available at: <http://www.npta.arizona.edu/ridge.html>

